THE
GRYPHON

GRYPHON PRE-PREAMP
DESIGN STORY / USER'S MANUAL

GRYPHON: Mythical figure which combines the force of the 'king of the animals' with the grace of the 'king of the birds'. Known in Greek mythology as the guardian of the source of gold, and as the protector of the Dionysos filled cup of infinite richness. (Roman histories, year 3000 b.c.)
GRYPHON, PRE-PREAMPLIFIER: dual mono, megabandwidth, handmade in Denmark. Devoted to the protection of sonic purity.

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GRYPHON PRE-PREAMP FEATURES

* Gryphon class A mode (pure class A mode x 100)
* Dual mono, separate power supplies
* Fully discrete construction
* High-grade hand-picked components
* Flat megabandwidth frequency response
* No feedback, no compensating capacitors
* Ultra-low noise level
* Precise match of impedance to the cartridge
* 5 year guarantee.

TECHNICAL SPECIFICATIONS:

Output impedance		:	220 Ohm, non complex
Input impedance		:	200 Ohm//1nF, user adjustable
Gain		:	30 dB
THD	, ref 100uV input	:	below noise floor of cartridge
2. harmonic,	ref 100uV input	:	< 0.003% (- 0dB), 20Hz - 200KHz
3. harmonic,	ref 100uV input	:	< 0.0003% (-110dB), 20Hz - 200KHz
Frequency resp.	+0/-0.01 dB	:	20 - 500.000 Hz, load 50 pF
	+0/-3dB	:	1 - 10.000.000 Hz, load 50pF
S/N (ref.0,5mV)		:	80 dB flat, unweighted
slewrate (output)		:	100V/uS
headroom ref.100uV input		:	60dB
Shipping weight		:	5.6 Kgs

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THE DESIGN TEAM BEHIND THE GRYPHON LINE

The team consists of a number of professional audio engineers, a component expert, a mechanical engineer, a designer, all fascinated by working on a product of soul, and not economically dependent (this is not a promise) on the result of their products.
The team has the use of high grade analysing, modelling and measuring equipment (although seldom used), and is not concerned with the final cost of its products. We are well in line with the leading edge of technology.

THE ROLE OF THE HEADAMP/STEP-UP IN THE HIGH END SYSTEM.

The black vinyl disc has proved its superiority as the source of reproducing real life music.
High grade playback systems still reveal that the black vinyl disc is far ahead of digital technology in recreating the details, the soundstage, the dynamics and the sheer musicality of the live performance.
After the disc itself, the cartridge, arm and deck, the moving coil amp has the important responsibility of revealing the full information without adding any colouration or personal character to the music.

PRESTIGE PRODUCT

Yes, GRYPHON is a prestige product - made for setting standards - any product handmade in a very limited quantity has to be a 'prestige product'.
Medium volume producers seem to ignore the genuine need for a step-up meeting the demands of the serious audiophile. The costs of the research involved and the handcraft methods of production are too large compared to the potential sales.
The GRYPHON finally offers to the serious audiophile the true state-of-the-art product. A product in which the 2 years development time has achieved the ultimate transparency and sonic purity in music reproduction.

BEAUTY ?

Why not ? Although not intended as a 'piece of art' we think the importance of the step-up calls for a front row seat. We think you have to see it, to believe it's not 'the wonderwire with gain'.
The external beauty of the GRYPHON is merely the visual reflection of the built-in quality and circuit design.
The shape of the GRYPHON actually evolved out of the electrical design ideas, but we believe it shows our pride as designers and enables you to visually enjoy being the owner of a fine piece of audio equipment.

Compact/Natural

We will not dwell on any discussion of compact disc versus analogue reproduction of music, but just mention two CD-factors, which we find has an unfortunate influence on the music.
1. The compact disc reproduction method has a rising distortion (and often not harmonic) characteristic as the level approaches the fine details of the music, directly opposed to the characteristics of analogue playback system which has a falling (and harmonic) distortion characteristic when it comes to the weaker details of the music, just like our natural hearing.
2. The other factor is the alarmingly low sampling frequency of 44 KHz, which (by the laws of Nyquist) dictates that the frequency response must be cut off most abrubtly at less than half this frequency - first on the recording side of the chain and second on the reproduction side. The necessary sharp filters are most unfurtunate as they very easily distort the natural spectral coherence and the natural impuls responses of the music.

A Discrete Integrated Design

The Gryphon is simple and conservative in its construction.
Rather than following the typical approach of trying to make (cheaper) non-ideal components 'ideal', the base for the GRYPHON has been 'the best possible' raw materials.

A new principle ?

Rather than introducing complex design to meet the 'ideal' measuring results, and to introduce 'new principle slogans', the GRYPHON constructional design is basically simple and very 'conservative' in the considerations applied to each of the elements. The signals only passes a 'class A current mirror with gain'.
Our listening tests very soon discovered that we could 'reach heaven' following this approach.
The resulting conservativeness reminds the listener more of 'the invisibleness' of a high quality 200W pure class A amplifier driving a pair of headphones, than of a far east B amplifier driving a pair of Apogees. Simple and conservative could be called 'A new principle ?'

'Understanding the Signals'

One of the 'secrets' of the GRYPHON is the acknowledgement of the fact that the signal levels of the moving coil are delicate signals. The MC input level of some 1/10,000 part of a volt is **not** brute force power-amp levels, but very delicate levels, that are closer to the 'traveling electrons' of the signal than anywhere else in the playback system.
'Fuzzy' distortion is, if anywhere, put at its most extreme consideration here. These low levels simply dictate some very important basic acknowledgments of how the signals travels and also how even secondary connections and components affect the signal purity by some most surprising amounts.

Total Integration

It might sound as if we were praising integrated circuits - we could do - if the talk were about e.g. computers. The GRYPHON is in its signal amplification a pure discrete design. Integrated circuits cannot succesfully be applied to the delicate job of the MC Step-Up for several reasons.
What we mean is that the process of designing and 'listening in' of a unit like the GRYPHON really called to attention of the phenomenon of integrity.

High grade components differ by 'decades' depending on the very specific use in the actual circuit. Interactions occur between components, the very wiring, the chassis etc. A random use of 'fashionable' components does not guarantee any integrity. It is understanding of the 'chemistry' of the individual components and how they work together in interactions, that determines the total integrity of the result. A process securing total integration.

Stability

Stability, as we see it, applies to factors in the sound quality and to factors concerning time.

Sound Quality

The mono concept, the separate power, the pure class A, the no feedback design, the non complex behavior of input and outputs and the megabandwitdh are all factors determining sound stability.
Stability in the brute force dynamic capabilities of the Gryphon from the black silence floor to the headroom 'miles above', stability in the coherence of the sound stage, and stability in the frequency behaviour.

Time. The best raw materials, testing and selection of components, a thermally and mechanically compounded heart, the handcraft assembling, the electrical testings, the burn-in period and the listening tests are factors determining stability for the lifetime of the Gryphon.

The Engineering Dilemma & Tech.Specs.

It takes no great listener to tell differences beyond the figures of data.
This is indeed the problem for the engineer, simply because the measuring possibilities are the basis for improving sound. He simply has to quantify the sound quality in tech.spec. numbers to be able to define what is a design improvement and what is not.
Every year since the birth of the reproduction chain has brought up new measuring techniques and - thank goodness - brought new possibilities to the engineer to produce new 'invisibleness' of the equipment.
The last decade has brought to focus a number of measuring methods focussing on the dynamics of the sound, a focus which Matti Otala started by showing some of the decrepancies of applying feedback, a work which has continued and has now resulted in methods for measuring TIM *1) and related distortions like DIM *2) and SID *3).
However there is more to it than measurable limits. Very few music lovers will claim that products which measure very equal sound equal. - and why so ?
We think the problem is that most measuring standards and methods are etablished with very **simple** signal sources as compared to **complex** music signals. Today it has to be so - to produce the analysing equipment, which must 'filter out' and weigh the differencies between the original material and the reproduced to find the 'distortions'.
And very simply **no analysing equipment, now and for several decades to come can do as total an analysis as our brains.** The complex sound analyser or should we say the 'the music analyser' of our brains is simply so enormous that it will take many decades of years and extreme amounts of computer power for measuring equipment to catch up.
This is not to say that technical specifications are useless - on the contrary - they are very valuable design tools. Tech. Spec.'s just do not blindly guarantee a good behaviour, when applied to the music. This is indeed the engineer's dilemma.

Glossary.

1) TIM Transient Intermodulation Distortion
2) DIM Dynamic Intermodulation Distortion
3) SID Slew Induced Distortions.

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ON/OFF (INSTALLATION)

The GRYPHON is designed to be 'on line' 24 hours a day, 365 days a year. This eliminates the need for doubtful relays in the signal path as well as the "one hour before optimum sound" period.
When connecting the GRYPHON you should connect the power supplies first and after a 2 minute period to allow the circuit to settle, connect the turntable and preamp. All operations should be made with the preamp volume down.

POWER SUPPLY POLARITY

It is important that the two power supplies are connected symmetrically to the mains for identical polarity.
We suggest that you experiment in changing the position 180 degrees of **both** power supplies to find the optimum performance depending on the rest of your system.
We have noted that 'correct polarity' can have effect on the depth of soundstage. When experimenting with this, take care to respect the on/off procedure described above.

'THE ART OF GROUNDING'

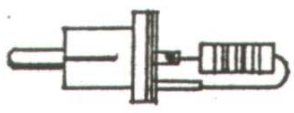
Correct grounding is a matter of interaction in your system. A good rule of thumb is to keep the grounding line straight from turntable to stepup to preamp to poweramp. Do not make 'jumps' e.g. with a groundwire from turntable to poweramp. We suggest that you make experiments to find optimum performance. Good grounding is not only a recipe to eliminate hum, but can have a significant effect on total performance.
Some audiophiles claim that a 'true grounding' (a metal pole to the ground) or a connection to an earth connected waterpipe (some pipes are made of plastic) can offer major improvements depending on the system performance.
The GRYPHON is capable of operation with true balanced cabling (with independent shield). This is the reason for the two grounding poles on the GRYPHON. However, if you want to use semi-balanced cabling or coax cables, we recommend that you use only one of grounding poles. The turntable ground wire should be connected to the same GRYPHON grounding pole as well as the ground wire to the preamp (if needed).

IMPEDANCE INTERFACE

To secure perfect damping of your MC cartridge the GRYPHON offers perfect impedance interface for virtually all MC cartridges on the market. The adaptors supplied cover the most popular brands. The spare adaptor (grey) is empty and allows you to make a special one to your personal specifications.
Use the impedance table to find the correct resistor value. This value is normally specified by the cartridge manufacturer and can be supplied by your GRYPHON dealer. Use only a good quality precision metal film resistor. Please observe the figure for mounting the resistor, and make sure not to make any 'cold' solderings. If you are in doubt about this procedure, your dealer will gladly do the job.
When changing adaptors we recommend that the volume of your preamp is turned down. The effect of different damping is most audible, but this option (in our opinion), should not be used as an 'equalizer', but only to secure optimum cartridge performance. If the soundstage, details and transparency are perfect but tonal balance is 'off', we suggest the problem will be found elsewhere in the system.

IMPEDANCE INTERFACE LOAD CHART

LOAD	E96 RESISTOR	ADAPTOR
2.50	2.55	
2.73	2.74	
2.97	3.01	
3.24	3.32	
3.54	3.57	
3.86	3.92	
4.20	4.32	
4.59	4.64	
5.00	5.11	
5.45	5.62	
5.95	**6.19**	**BLUE**
6.48	6.65	
7.07	7.32	
7.71	8.06	
8.41	8.87	
9.17	9.53	
10.00	**10.50**	**GREEN**
10.91	11.50	
11.89	12.70	
12.97	14.00	
14.14	15.40	
15.42	16.50	
16.82	18.20	
18.34	20.00	
20.00	22.10	
21.81	24.30	
23.78	26.70	
25.94	30.10	
28.28	33.20	
30.84	36.50	
33.64	40.20	
36.68	45.30	
40.00	**49.90**	**RED**
43.62	56.20	
47.57	61.90	
51.87	69.80	
56.57	78.70	
61.69	88.70	
67.27	102.00	
73.36	115.00	
80.00	133.00	
87.24	154.00	
95.14	**182.00**	**YELLOW**
103.75	215.00	
113.14	261.00	
123.38	324.00	
134.54	412.00	
146.72	549.00	
160.00	806.00	
174.48	1370.00	
190.27	3920.00	
200.00	**infinite**	**use no adaptor .**



Spare adaptor for optional load: **GREY** .
All values are in Ohms. Use 1% E96 or E192 row metal film resistor.

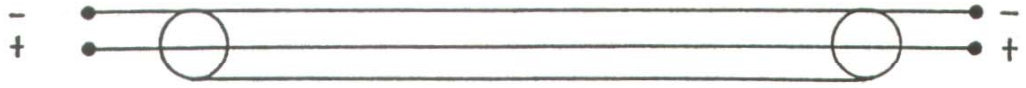
NOTES FOR REFERENCE

CARTRIDGE	LOAD	PERFORMANCE

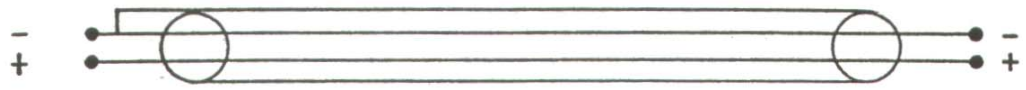
INTERCONNECTIONS

You probably already have a favourite cable. However the GRYPHON is so revealing that you should experiment to find, or establish, the most neutral sounding cable. The connectors must have the optimum contact (a bad connection acts like a series-resistor, with a degrading effect on the performance). Use only gold-plated connectors of premium quality. We recommend the use of contact improving methods (like TWEEK).

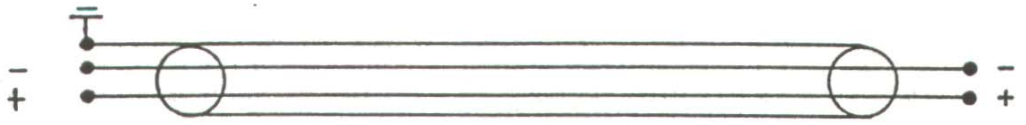
1. COAXIAL



2. SEMI-BALANCED



3. SEMI-BALANCED WITH GROUNDED SHIELD



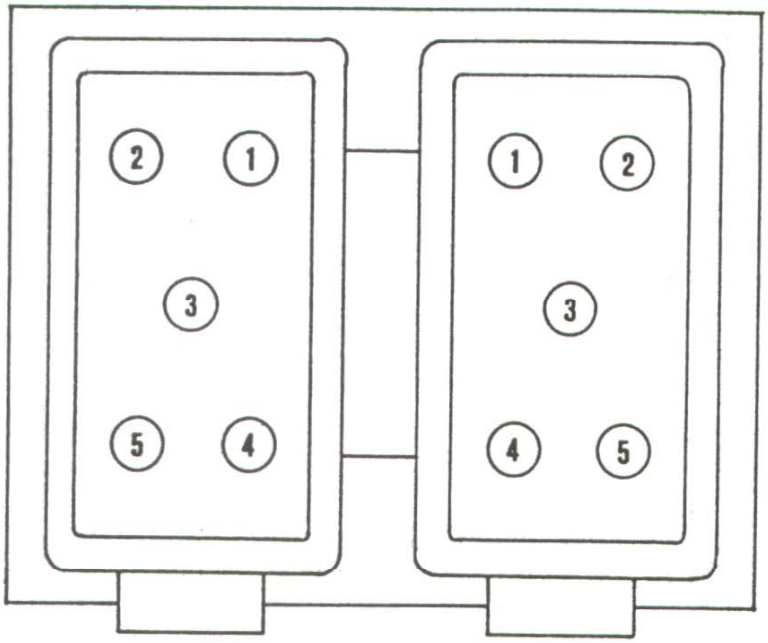
4. BALANCED

!!!! CAUTION !!!!

There are no user serviceable parts inside the GRYPHON.
All components are carefully selected and matched to meet the stringent demands of the sophisticated dual mono design.
If ever your GRYPHON should need service, contact your GRYPHON dealer or the national GRYPHON distributor.
Any repair (or attempts to) by unauthorised personnel invalidates the warranty.

REAR PANEL LAYOUT

1. INPUT
2. LOAD
3. GROUND
4. OUTPUT
5. POWER INPUT



WARRANTY

The GRYPHON pre-preamp is warranted against failures arising through faulty workmanship and materials for a period of 5 years from date of purchase. The warranty is not transferrable.
All claims under this warranty must be made to the distributor in the buyer's country by returning the unit securely packed in the original box with all accessories, postage prepaid and insured. The unit will be repaired or replaced at no charge for parts and labour. This warranty remains valid only if the serial number on the unit has not been defaced or removed and if repairs are performed only by authorized GRYPHON dealers or distributors. It does not cover damage due to misuse, accident or neglect. The distributor or the manufacturer, 2R Marketing, Denmark retains the exclusive right to make such judgments on the basis of inspection.
The retailer, distributor or manufacturer of the GRYPHON shall not be liable for consequential damage arising from the use, misuse or failure of this product, including injuries to persons or property.
To qualify, the warranty registration card must be filled out and returned to the manufacturer within 10 days of purchase.

Manufacturing and worldwide distribution :
2R aps, Aarhus, Denmark, tlx. 64150 DK